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ABSTRACT OF THE DISCLOSURE

Golf balls and compositions for use in ball cores, covers and intermediate layers incorporate syndiotactic 1,2-polybutadiene having crystallinity and other specified physical properties. Golf balls incorporating the compositions of the present invention provide flexibility in golf ball design to improve ball performance, such as hit feel and spin rate, without adversely affecting shear-cut resistance of the ball. Also, methods for making golf balls include preparing a composition comprising syndiotactic 1,2-polybutadiene having crystallinity, and then incorporating the composition into a golf ball. The methods can include injection molding only, or injection and compression molding. When the composition being molded incorporates crosslinking agents, co-crosslinking agents, or crosslinking accelerators, preferred methods include inducing partial or total crosslinking of the composition at preferred steps of making the golf balls.